



# Forest Health Protection

## Pacific Southwest Region



Date: November 30, 2018  
File Code: 3400

**To: Ann Carlson, Forest Supervisor, Mendocino National Forest**

**Subject: Ranch Fire Restoration Project**

At the request of Matthew Nourmohamadian, a site visit was made to the developed campgrounds within the Ranch Fire Restoration Project, Mendocino National Forest, on April 25, 2019. The objectives were to assess the current insect and disease conditions and discuss hazard tree assessments.

### **Background**

The Ranch Fire became California's single-largest recorded wildfire burning 410,203 acres July 27 through November 7, 2018. The Ranch Fire began off Highway 20 near Potter Valley pushing north and eastward into the Mendocino National Forest up to Lake Pillsbury. The fire continued to push from the Snow Mountain Wilderness into Glenn County. On September 19, the U.S. Forest Service reported that the Ranch Fire had been fully contained, however, InciWeb stated that hotspots continued to smolder deep within the containment lines of the fire until November 7, when the Ranch Fire was declared to be inactive.

The Forest Service in cooperation with the State of California Off-Highway Vehicle (OHV) Fund, has developed roads, trails, and facilities for enjoyment of OHV users. The Upper Lake District offers over 135 miles of associated system trails and roads. The riding area varies in elevation from 1,600 feet at Middle Creek campground/staging area, to over 4,500 feet at Hull Mountain to the north. The trails range in degree of difficulty from novice- to advanced-level. The basin is closed annually from May 18 through September 8 to OHV use. The basin is currently closed to the public as the Forest considers its options regarding the hazard trees along the forest roads due to the Ranch Fire.

There are three developed campgrounds in the Upper Lake District serving the OHV enthusiast community. All camping sites are available on a first-come, first-serve basis. All campgrounds provide campers with a table, a fire ring or camp stove, vault toilets, and OHV trail access. We visited three of the campgrounds in the Upper Lake District.

- 1) Middle Creek located 8 miles north of Upper Lake on County Road 301 (Forest Road M-1) (39° 15' 09.46080", -122° 57' 01.76399"). Facilities include 21 individual campsites and 2 group sites, 26 tables, 23 upright pedestal grills, 23 fire rings, 3 toilets, trailer space, and a gravity water system. This site is closest to the community of Upper Lake and also provides a large OHV staging area.

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- 2) Penny Pines located 10 miles from Upper Lake on County Road 301 ( $39^{\circ} 17' 55.5''$ ,  $-122^{\circ} 55' 47.9''$ ). Facilities include 10 individual campsites with fire rings and tables, 1 toilet, no water or garbage.
- 3) Deer Valley located 12 miles north of Upper Lake on County Road 301 and 4 miles east on Forest Road 16N01 ( $39^{\circ} 15' 57.1068''$ ,  $-122^{\circ} 53' 01.8744''$ ). Facilities include 13 tables, 13 stoves, 1 toilet, and trailer space, no water or garbage.

We also visited the Pine Mountain Lookout, 19 miles north of Upper Lake, which was constructed in 1933 and used for fire detection until 1942. During World War II, the lookout served as part of an aircraft defense monitoring system that extended throughout California. This lookout is historically significant because it only offers 180-degree views of the surrounding terrain, while other lookouts have 360-degree views. The lookout is typically open from May through October and is accessible by car. Facilities include the lookout cabin, perched on a rock outcropping at an elevation of 4,400 feet, equipped with bunk beds, cots, dining table with chairs, and storage cabinets. A picnic table, fire ring and grill are located outside. An outhouse with a vault toilet is a short distance away. There is no water and electricity.

Hazard trees include dead or dying trees, dead parts of live trees, or live trees made unstable due to structural defects or other factors, that are within striking distance of people or property. Hazard trees have the potential to cause property damage, personal injury or fatality in the event of tree failure. Annual safety inspections are required of every public National Forest recreation site (FSM 2332.1). This includes tree hazard inspections. Inspections should normally be done prior to the primary use season with sufficient time allowed for corrective actions to be taken.

In developed recreation areas, trees with defects should be identified and rated for hazard potential using the Region 5 hazard Tree Guidelines. Following rating, action is prescribed to correct or monitor the situation. Common indicators of defect include cracks, weak branch unions, stem or branch decay, cankers, dead tree, top or branches, root damage and root disease, bark and wood boring beetles, lean and poor architecture. Multiple and connected defects are worse. The unique symptoms and probabilities of failure of these defects are presented in the guidelines.

### **Observations**

At an elevation of 1,345 feet, the climate in Upper Lake is considered to be mild with summer temperature averaging 89 degrees and winter 33 degrees and average precipitation in Upper Lake of 43 inches per year with none of that as snow. Temperatures are somewhat cooler and snow more likely at higher elevations, but with the highest in the OHV basin being 4,500, it remains relatively mild.

The Upper Lake District of the Mendocino National Forest is primarily a mixed conifer forest of ponderosa pine (*Pinus ponderosa*), Douglas-fir (*Pseudotsuga menziesii*), with

components of sugar pine (*P. lambertiana*), and incense cedar (*Calocedrus decurrens*), mixed with black oak (*Quercus kelloggii*) and Pacific madrone (*Arbutus menziesii*) trees.

- 1) Middle Creek Campground and staging area is an open oak woodland bounded by Forest Highway 301 and Middle Creek (Figure 1).



**Figure 1. Middle Creek Camp Ground from Google Earth image July 2, 2018.**

The Ranch Fire did not burn into the campground but stayed outside along the creek and across the road. Hazards noted were dead branches over tables and stem decay. Decay is a leading cause of tree failure, but is difficult to observe in some trees because the health and vigor of the crown is not an indicator of internal decay. Indicators of internal decay include wounds, broken or dead tops, cracks, bird cavities, conks, mushrooms or the presence of carpenter ants or termites. In several of the older oak trees indicators seen were cracks and bird cavities (Figure 2).

Discussions were centered on removing the dead limbs over tables and determining extent and the amount of remaining sound wood. The presence of decay alone does



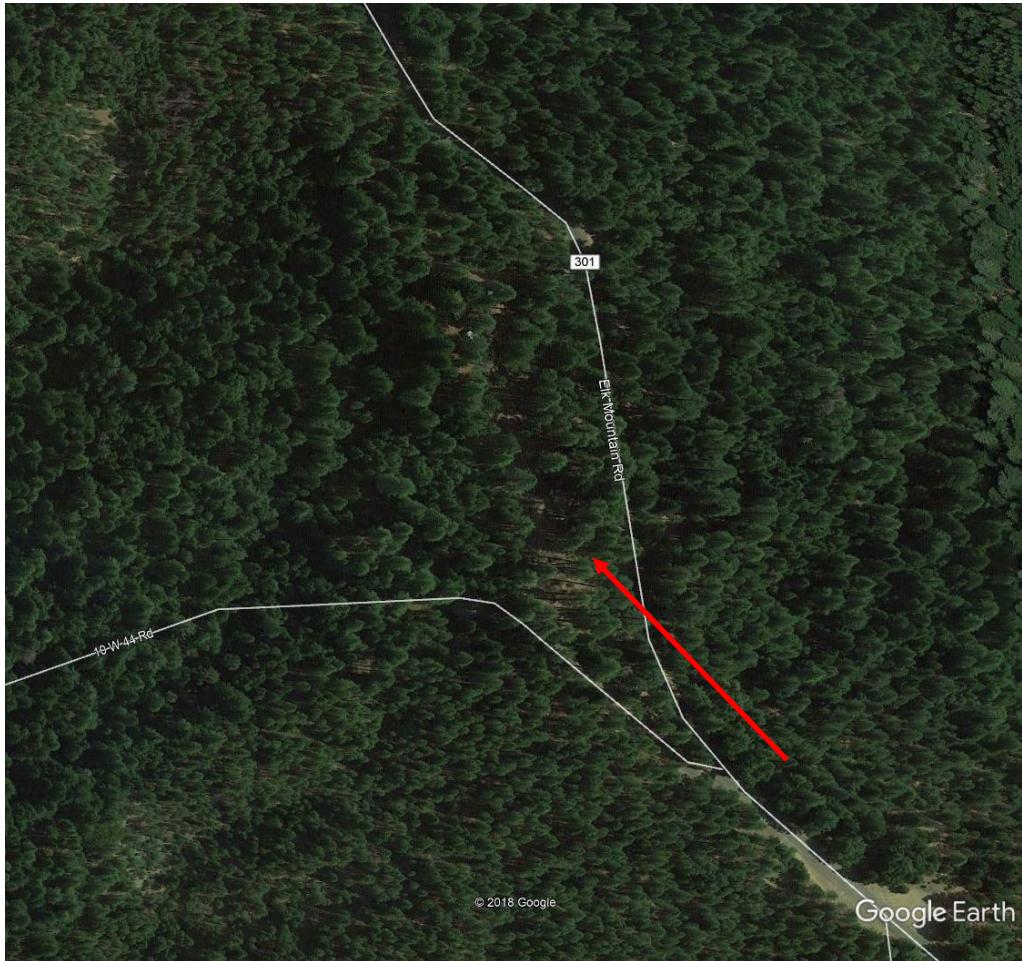
**Figure 2. Crack with associated bird cavities indicating internal decay in stem of oak tree.**

not indicate that a tree is highly defective. Some decay, especially in the interior, is tolerable. Most of the strength of a tree, like a pipe, is on the outside, so interior wood can be removed without great effect on strength. Discussions about how to determine if there is less than 1/3 radius solid wood which would be the reason for removing the

hazard by either removing the tree or the target by closing the sites or topping to a height that would remove the threat in case of failure.

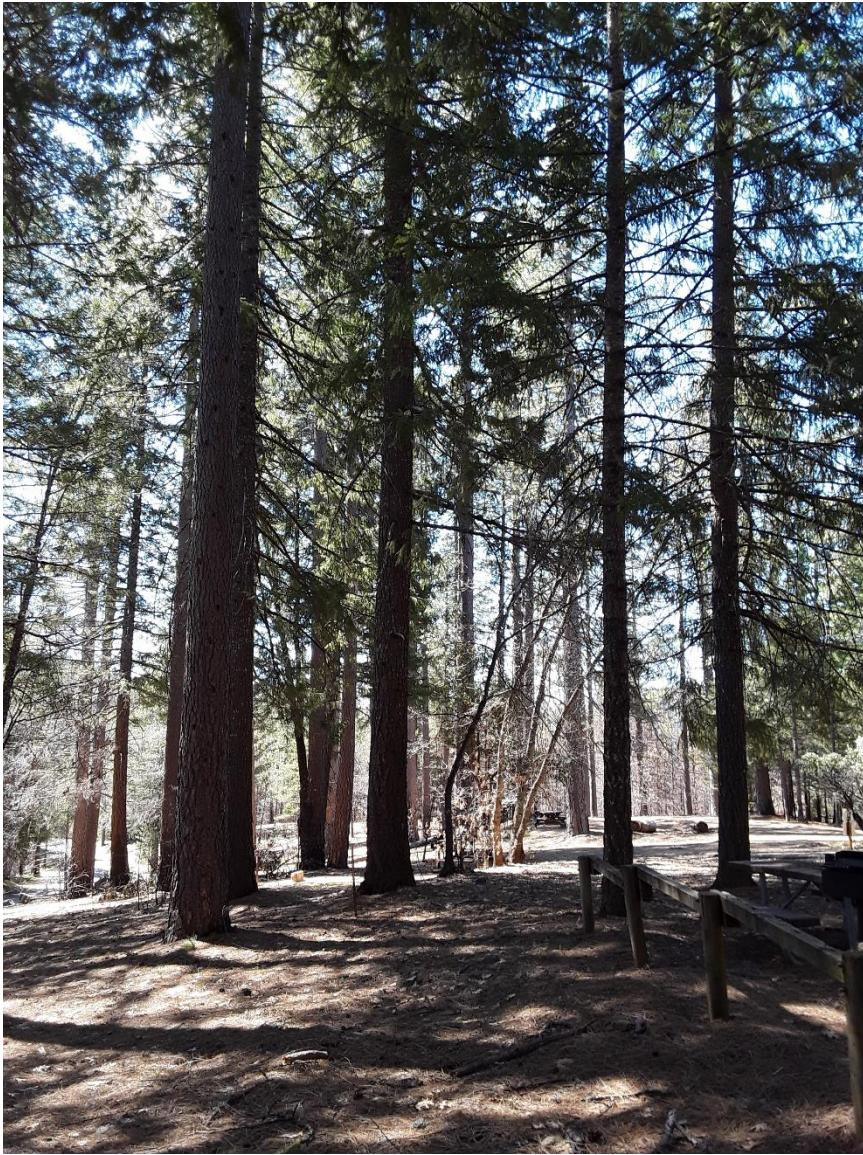
- 2) Penny Pines Campground is at elevation of 3,689 feet and is dense mixed conifer forest (Figure 3).

The Ranch Fire burned up into only one of the campsites killing several trees within falling distance of the table and pad. The other 9 sites and the toilet area were not burned (Figure 4).



**Figure 3. Penny Pines Campground**

Discussions centered on the single campsite affected with suggestions of either removing the dead trees or removing the campsite from use. Both of these suggestions would reduce the hazard.



**Figure 4. Penny Pine Campground mostly unburned.**

- 3) Deer Valley Campground at an elevation of 3,700 feet (Figure 5) was also mostly unburned within the campsites. The Ranch Fire burned up to the road edge heavily (Figure 6) and around the trail kiosk (Figure 7). Fire injury was at the two extremes of either full consumption or very light; 12 trees were removed in September 2018 that were completely burned. It was discussed that the dead trees within range of targets were high hazards. A lot of repair work has been in process to get these sites opened to the public soon. Continued monitoring of fire-injured trees was recommended.



Figure 7. Deer Valley Campground

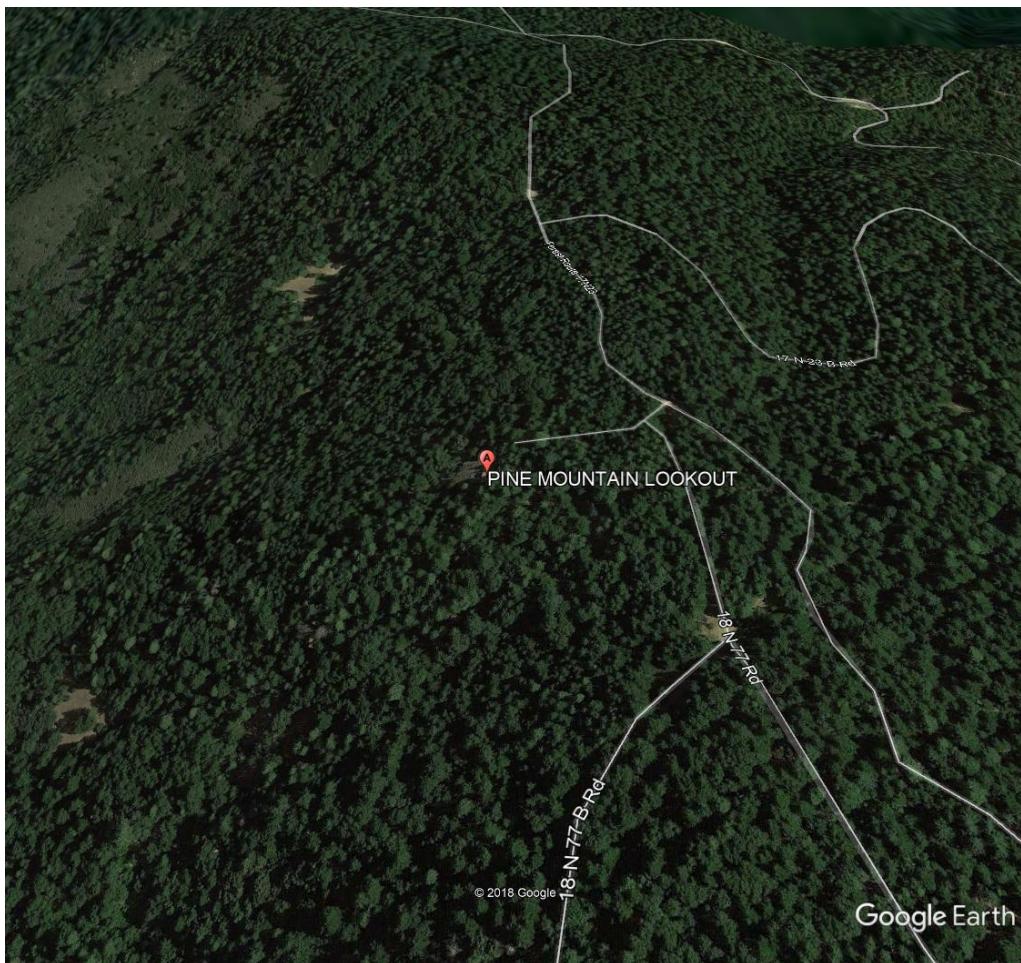


Figure 6. Ranch Fire burned right up to road edge in Deer Valley Campground.



Figure 5. Fire-injured trees near trail kiosk at Deer Valley Campground.

Pine Mountain Lookout at an elevation of 4,400 feet within a mixed conifer forest (Figure 8), the Ranch Fire had burned into the site injuring several trees. Bole scorch did not seem severe in most cases and crown scorch was minimal. There was a dead ponderosa pine (>20 inches DBH) next to the lookout steps surrounded by several dead/dying Douglas-fir (6-8 inches DBH). There did not appear to be any crown or bole scorch on these trees but the ground had been very hot as shown by charred soil (Figure 9). Possibly dead feeder roots close to the surface. Discussions speculating on the cause of mortality were secondary to the noting that dead trees are the highest hazard regardless of cause.



**Figure 8. Pine Mountain Lookout by Google Earth image from July 2, 2018.**



**Figure 9. Charred soil below dead ponderosa pine tree with no symptoms of crown or bole scorch.**

### **Discussion**

There was a short discussion about how a Vegetation Management Plan would be a great idea to cover the three campgrounds servicing the OHV community. This would provide some guidance for new arrivals on the District to understand what the desired condition of the campgrounds is and how the Forest intends to maintain it. Hazard trees would be addressed as part of that. The current hazards pointed out should be addressed as soon as possible to maintain safe surroundings once the campgrounds are reopened. Annual hazard tree analysis is required and the new tablet app was discussed as a tool to aid in getting the documentation done quickly and efficiently. I suggested a hazard tree training session for the District, but that would apply for the whole Forest as well for all employees that deal with hazard tree situations. I would be available to help set that up with FHP Pathologists.

In general, the Ranch Fire burned in a very patchy mixed severity in the OHV areas and did not heavily impact the campgrounds. I would be glad to help the recreation crews get

set up on the new Hazard Tree Evaluation form app for tablets and in setting up a hazard tree training session if the Forest would like to make one available.

If you have any questions regarding this report and/or need additional information, please contact Cynthia Snyder at 530-226-2437.

/s/ Cynthia Snyder

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